

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: M. Miyaji, et al. : Art Unit:
Serial No.: To Be Assigned : Examiner:
Filed: Herewith :
FOR: FEEDFORWARD AMPLIFIER :

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

S I R :

Prior to examination, please amend the above-identified application as
filed:

IN THE SPECIFICAION:

Please replace the paragraph beginning at page 4, line 17:

One aspect of the present invention is a feedforward amplifier comprising:

Please replace the paragraph beginning at page 5, line 21:

Another aspect of the present invention is the feedforward amplifier, further
comprising:

Please replace the paragraph beginning at page 6, line 9:

Still another aspect of the present invention is the feedforward amplifier,
further comprising:

Please replace the paragraph beginning at page 6, line 20:

Yet still another aspect of the present invention is the feedforward
amplifier, further comprising:

Please replace the paragraph beginning at page 7, line 10:

Still yet another aspect of the present invention is the feedforward amplifier, further comprising:

Please replace the paragraph beginning at page 7, line 23:

A further aspect of the present invention is the feedforward amplifier, further comprising:

Please replace the paragraph beginning at page 8, line 9:

A still further aspect of the present invention is the feedforward amplifier, wherein said distortion suppression power-combiner is a variable power-combiner that can have a tight coupling state and a loose coupling state, and

Please replace the paragraph beginning at page 8, line 21:

A yet further aspect of the present invention is the feedforward amplifier, wherein said distortion suppression power-combiner is a variable power-combiner that can have a tight coupling state and a loose coupling state,

Please replace the paragraph beginning at page 9, line 7:

A still yet further aspect of the present invention is the feedforward amplifier, wherein, when said first signal level is not higher than a predetermined value, said control means performs such control that the output signal of said error amplifier can be output without passing through said distortion suppression power-combiner.

Please replace the paragraph beginning at page 9, line 14:

An additional aspect of the present invention is the feedforward amplifier, wherein, when said first signal level is not lower than a predetermined value, said control means performs such control that the output signal of said error amplifier can be output without passing through said distortion suppression power-combiner.

Please replace the paragraph beginning at page 9, line 21:

A still additional aspect of the present invention is the feedforward amplifier, further comprising:

Please replace the paragraph beginning at page 10, line 13:

A yet additional aspect of the present invention is the feedforward amplifier, further comprising:

Please replace the paragraph beginning at page 11, line 3:

A still yet additional aspect of the present invention is the feedforward amplifier, further comprising:

Please replace the paragraph beginning at page 13, line 1:

A supplementary aspect of the present invention is the feedforward amplifier, further comprising:

Please replace the paragraph beginning at page 14, line 21:

A still supplementary aspect of the present invention is the feedforward amplifier, further comprising:

Please replace the paragraph beginning at page 17, line 1:

A yet supplementary aspect of the present invention is the feedforward amplifier, further comprising:

Please replace the paragraph beginning at page 19, line 4:

A still yet supplementary aspect of the present invention is the feedforward amplifier, wherein said first signal level detection means is provided in an upstream stage of said first power splitter, or between said first power splitter and said first vector adjustor, or between said first vector adjustor and said main amplifier, or between said first power splitter and said first delay circuit, or between said first delay circuit and said distortion detection power-combiner, or at the input of said baseband signal generating portion, or at the output of said baseband signal generating portion, or in said baseband signal generating portion, or at the input of said transmitting circuit, or at the output of said transmitting circuit, or in said transmitting circuit.

Please replace the paragraph beginning at page 19, line 18:

Another aspect of the present invention is the feedback amplifier, wherein said first signal level detection means is provided at the input of said receiving circuit, or at the output of said receiving circuit, or in said receiving circuit.

Please replace the paragraph beginning at page 19, line 24:

Still another aspect of the present invention is the feedforward amplifier, wherein said second signal level detection means is provided in a downstream stage of said distortion suppression power-combiner, or between said second power splitter and said second delay circuit, or between said second delay circuit and said distortion suppression power-combiner.

Please replace the paragraph beginning at page 20, line 6:

Yet still another aspect of the present invention is the feedforward amplifier,

Please replace the paragraph beginning at page 20, line 18:

Still yet another aspect of the present invention is the feedforward amplifier, wherein said second signal level detection means has a signal level detection power-splitter for splitting said output signal into two parts and detection means of detecting said signal level of one output signal of said signal level detection power-splitter, and

Please replace the paragraph beginning at page 21, line 3:

A further aspect of the present invention is the feedforward amplifier, wherein the stopping of the operation of said error amplifier is to perform such control that the power supply for said error amplifier can be turned off and/or to perform such control that the output signal of said second vector adjustor can not be input by said error amplifier.

Please replace the paragraph beginning at page 21, line 11:

A still further aspect of the present invention is the feedforward amplifier, wherein the stopping of the operation of said main amplifier is to perform such control that the power supply for said main amplifier can be turned off and/or to perform such control that the output signal of said first vector adjustor can not be input by said main amplifier.

Please replace the paragraph beginning at page 21, line 19:

A yet further aspect of the present invention is the feedforward amplifier, wherein the stopping of the operation of said second error amplifier is to perform such control that the power supply for said second error amplifier can be turned off and/or to perform such control that the output signal of said third vector adjustor can not be input by said secondary error amplifier.

Please replace the paragraph beginning at page 22, line 3:

A still yet further aspect of the present invention is a communication equipment comprising:

Please replace the paragraph beginning at page 22, line 7:

a transmitting circuit for outputting a transmitting signal from said baseband signal generated, wherein the feedforward amplifier is used for said transmitting circuit.

Respectfully Submitted,



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AR/lm

Enclosure: Version With Markings Showing Changes Made

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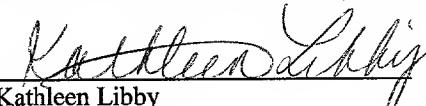
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Kathleen Libby

VERSION WITH MARKINGS SHOWING CHANGES MADESPECIFICATION:

Specification at page 4, line 17:

~~The 1st invention~~ One aspect of the present invention is a feedforward amplifier comprising:

Specification at page 5, line 21:

~~The 2nd invention~~ Another aspect of the present invention is the feedforward amplifier ~~according to 1st invention~~, further comprising:

Specification at page 6, line 9:

~~The 3rd invention~~ Still another aspect of the present invention is the feedforward amplifier ~~according to 1st invention~~, further comprising:

Specification at page 6, line 20:

~~The 4th invention~~ Yet still another aspect of the present invention is the feedforward amplifier ~~according to 1st invention~~, further comprising:

Specification at page 7, line 10:

~~The 5th invention~~ Still yet another aspect of the present invention is the feedforward amplifier ~~according to 1st invention~~, further comprising:

Specification at page 7, line 23:

~~The 6th invention~~ A further aspect of the present invention is the feedforward amplifier ~~according to 1st invention~~, further comprising:

Specification at page 8, line 9:

~~The 7th invention~~ A still further aspect of the present invention is the feedforward amplifier ~~according to 4th or 5th inventions~~, wherein said distortion suppression power-combiner is a variable power-combiner that can have a tight coupling state and a loose coupling state, and

Specification at page 8, line 21:

~~The 8th invention~~ A yet further aspect of the present invention is the feedforward amplifier according to 4th or 6th inventions, wherein said distortion suppression power-combiner is a variable power-combiner that can have a tight coupling state and a loose coupling state,

Specification at page 9, line 7:

~~The 9th invention~~ A still yet further aspect of the present invention is the feedforward amplifier according to 4th or 5th inventions, wherein, when said first signal level is not higher than a predetermined value, said control means performs such control that the output signal of said error amplifier can be output without passing through said distortion suppression power-combiner.

Specification at page 9, line 14:

~~The 10th invention~~ An additional aspect of the present invention is the feedforward amplifier according to 4th or 6th inventions, wherein, when said first signal level is not lower than a predetermined value, said control means performs such control that the output signal of said error amplifier can be output without passing through said distortion suppression power-combiner.

Specification at page 9, line 21:

~~The 11th invention~~ A still additional aspect of the present invention is the feedforward amplifier according to 1st invention, further comprising:

Specification at page 10, line 13:

~~The 12th invention~~ A yet additional aspect of the present invention is the feedforward amplifier according to 1st invention, further comprising:

Specification at page 11, line 3:

~~The 13th invention~~ A still yet additional aspect of the present invention is the feedforward amplifier according to 1st invention, further comprising:

Specification at page 13, line 1:

~~The 14th invention~~ A supplementary aspect of the present invention is the feedforward amplifier according to 1st invention, further comprising:

Specification at page 14, line 21:

~~The 15th invention~~ A still supplementary aspect of the present invention is the feedforward amplifier ~~according to 1st invention~~, further comprising:

Specification at page 17, line 1:

~~The 16th invention~~ A yet supplementary aspect of the present invention is the feedforward amplifier ~~according to 1st invention~~, further comprising:

Specification at page 19, line 4:

~~The 17th invention~~ A still yet supplementary aspect of the present invention is the feedforward amplifier ~~according to any one of 2nd, 4th, 5th, 11th, 13th, and 15th inventions~~, wherein said first signal level detection means is provided in an upstream stage of said first power splitter, or between said first power splitter and said first vector adjustor, or between said first vector adjustor and said main amplifier, or between said first power splitter and said first delay circuit, or between said first delay circuit and said distortion detection power-combiner, or at the input of said baseband signal generating portion, or at the output of said baseband signal generating portion, or in said baseband signal generating portion, or at the input of said transmitting circuit, or at the output of said transmitting circuit, or in said transmitting circuit.

Specification at page 19, line 18:

~~The 18th invention~~ Another aspect of the present invention is the feedback amplifier ~~according to any one of 3rd, 4th, 6th, 12th, 14th, and 16th inventions~~, wherein said first signal level detection means is provided at the input of said receiving circuit, or at the output of said receiving circuit, or in said receiving circuit.

Specification at page 19, line 24:

~~The 19th invention~~ Still another aspect of the present invention is the feedforward amplifier ~~according to 4th invention~~, wherein said second signal level detection means is provided in a downstream stage of said distortion suppression power-combiner, or between said second power splitter and said second delay circuit, or between said second delay circuit and said distortion suppression power-combiner.

Specification at page 20, line 6:

~~The 20th invention~~ Yet still another aspect of the present invention is the feedforward amplifier according to 17th invention,

Specification at page 20, line 18:

~~The 21st invention~~ Still yet another aspect of the present invention is the feedforward amplifier according to 19th invention, wherein said second signal level detection means has a signal level detection power-splitter for splitting said output signal into two parts and detection means of detecting said signal level of one output signal of said signal level detection power-splitter, and

Specification at page 21, line 3:

~~The 22nd invention~~ A further aspect of the present invention is the feedforward amplifier according to any one of 2nd, 3rd, 11th, 12th, 15th, and 16th inventions, wherein the stopping of the operation of said error amplifier is to perform such control that the power supply for said error amplifier can be turned off and/or to perform such control that the output signal of said second vector adjustor can not be input by said error amplifier.

Specification at page 21, line 11:

~~The 23rd invention~~ A still further aspect of the present invention is the feedforward amplifier according to any one of 4th, 5th, 6th, 11th, 12th, 13th, 14th, 15th, and 16th inventions, wherein the stopping of the operation of said main amplifier is to perform such control that the power supply for said main amplifier can be turned off and/or to perform such control that the output signal of said first vector adjustor can not be input by said main amplifier.

Specification at page 21, line 19:

~~The 24th invention~~ A yet further aspect of the present invention is the feedforward amplifier according to any one of 13th, 14th, 15th, and 16th inventions, wherein the stopping of the operation of said second error amplifier is to perform such control that the power supply for said second error amplifier can be turned off and/or to perform such control that the output signal of said third vector adjustor can not be input by said secondary error amplifier.

Specification at page 22, line 3:

~~The 25th invention~~ A still yet further aspect of the present invention is a
communication equipment comprising:

Specification at page 22, line 7:

a transmitting circuit for outputting a transmitting signal from said
baseband signal generated, wherein the feedforward amplifier ~~according to any~~
~~one of 1st to 6th, 11th to 16th, 19th, and 21st inventions~~ is used for said
transmitting circuit.